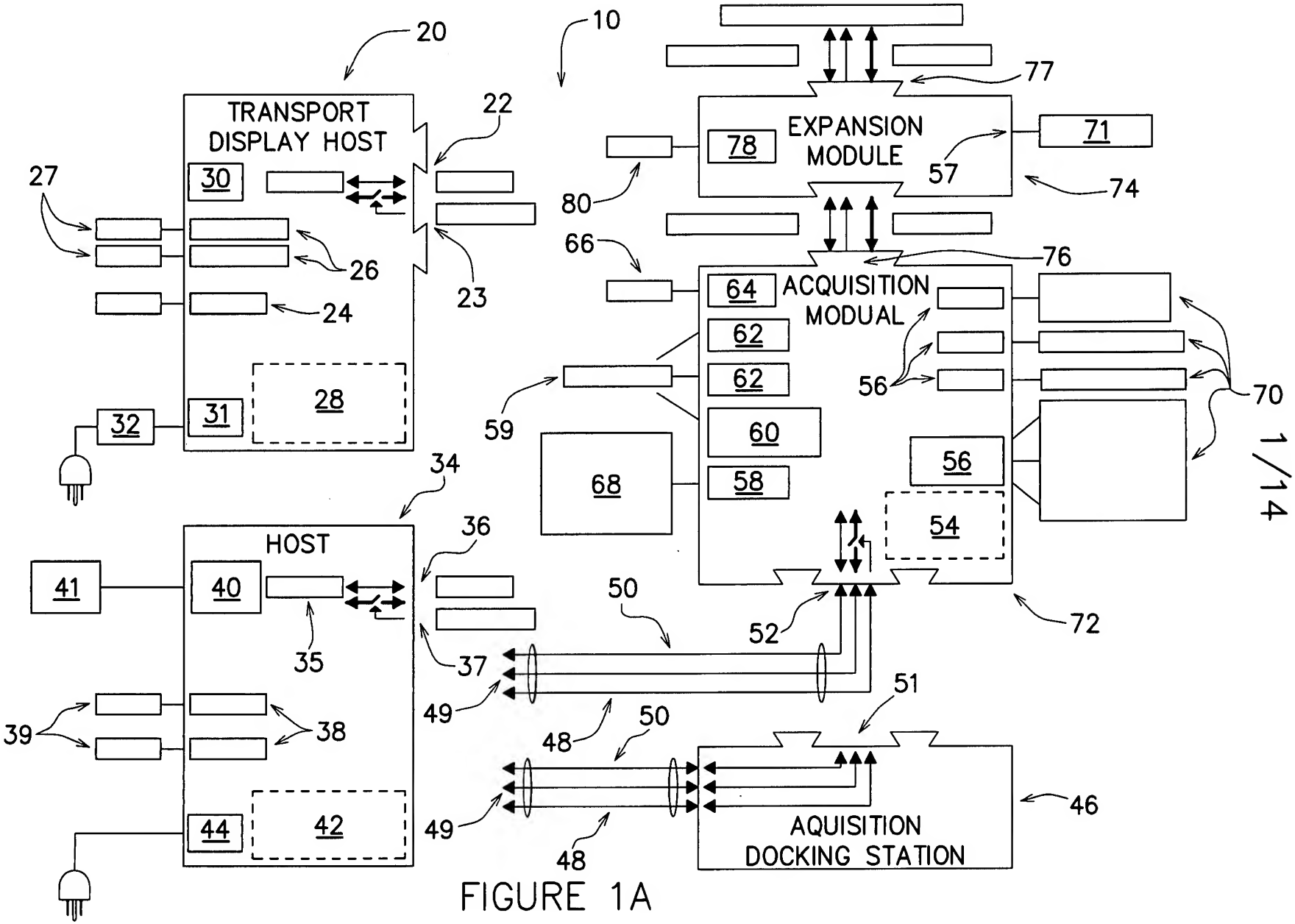

20
10
TRANSPORT
DISPLAY HOST
30
22
27
26
24
23
28
31
32
34
HOST
40
41
36
35
37
39
38
42
44
49
48
50
51
46
AQUISITION
DOCKING STATION
52
54
72
EXPANSION
MODULE
78
77
71
57
74
80
66
76
64
ACQUISITION
MODUAL
62
62
60
58
68
59
56
56
70

FIGURE 1A

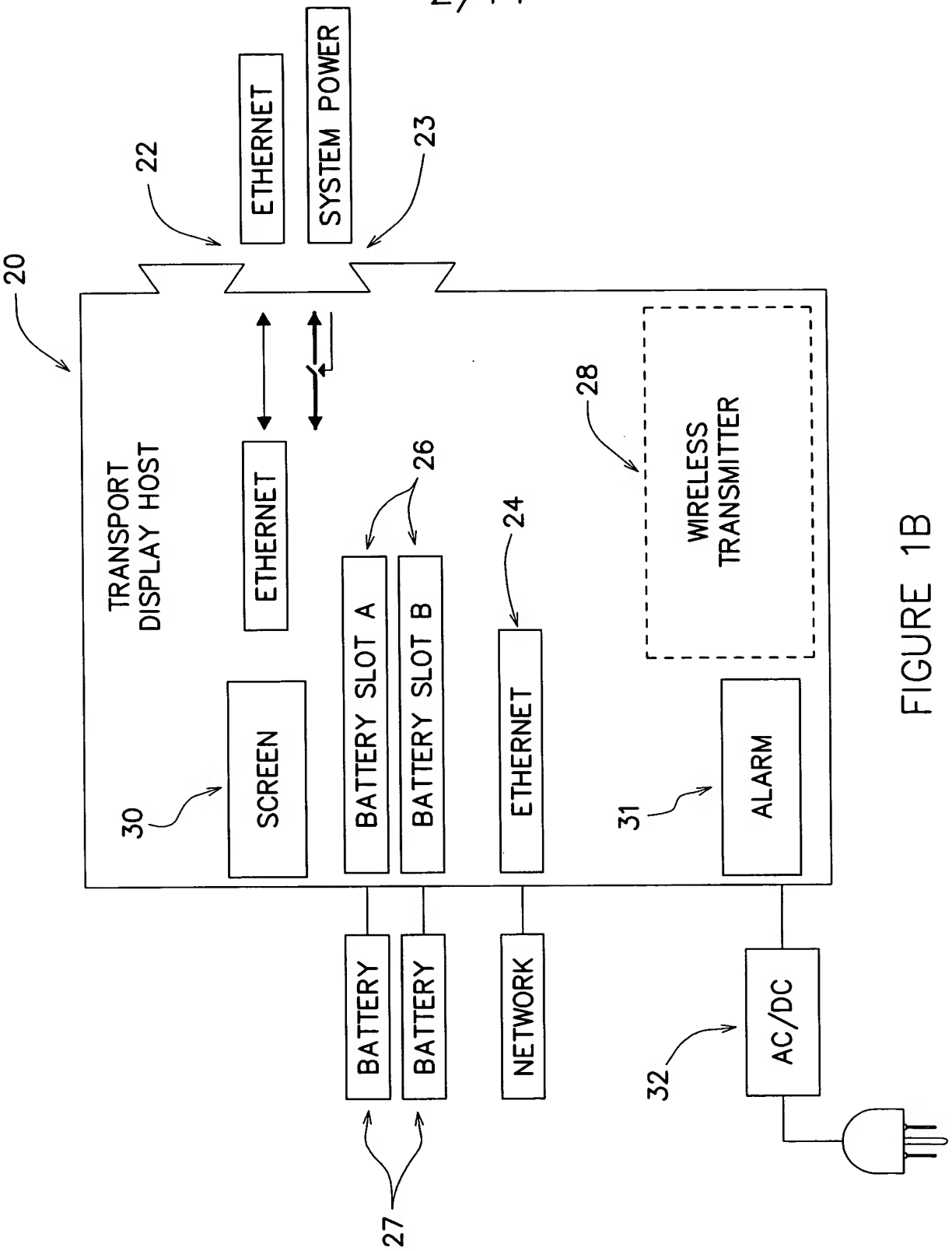

20
22
ETHERNET
SYSTEM POWER
23
TRANSPORT
DISPLAY HOST
ETHERNET
26
28
WIRELESS
TRANSMITTER
24
BATTERY SLOT A
BATTERY SLOT B
ETHERNET
30
SCREEN
31
ALARM
BATTERY
BATTERY
NETWORK
32
AC/DC
27

FIGURE 1B

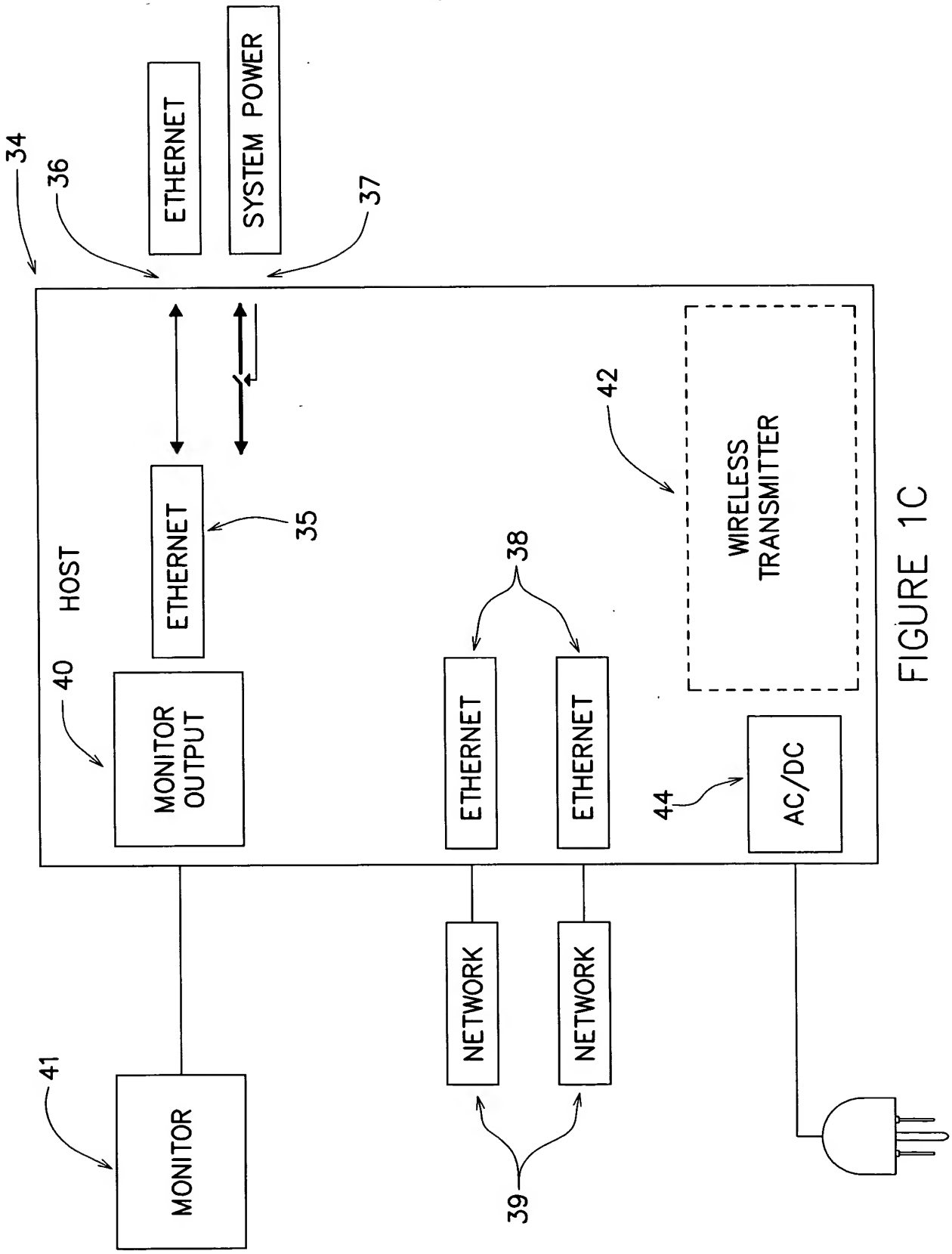

34
36
ETHERNET
SYSTEM POWER
37
HOST
ETHERNET
35
42
WIRELESS TRANSMITTER
38
40
MONITOR OUTPUT
ETHERNET
ETHERNET
44
AC/DC
41
MONITOR
NETWORK
NETWORK
39

FIGURE 1C

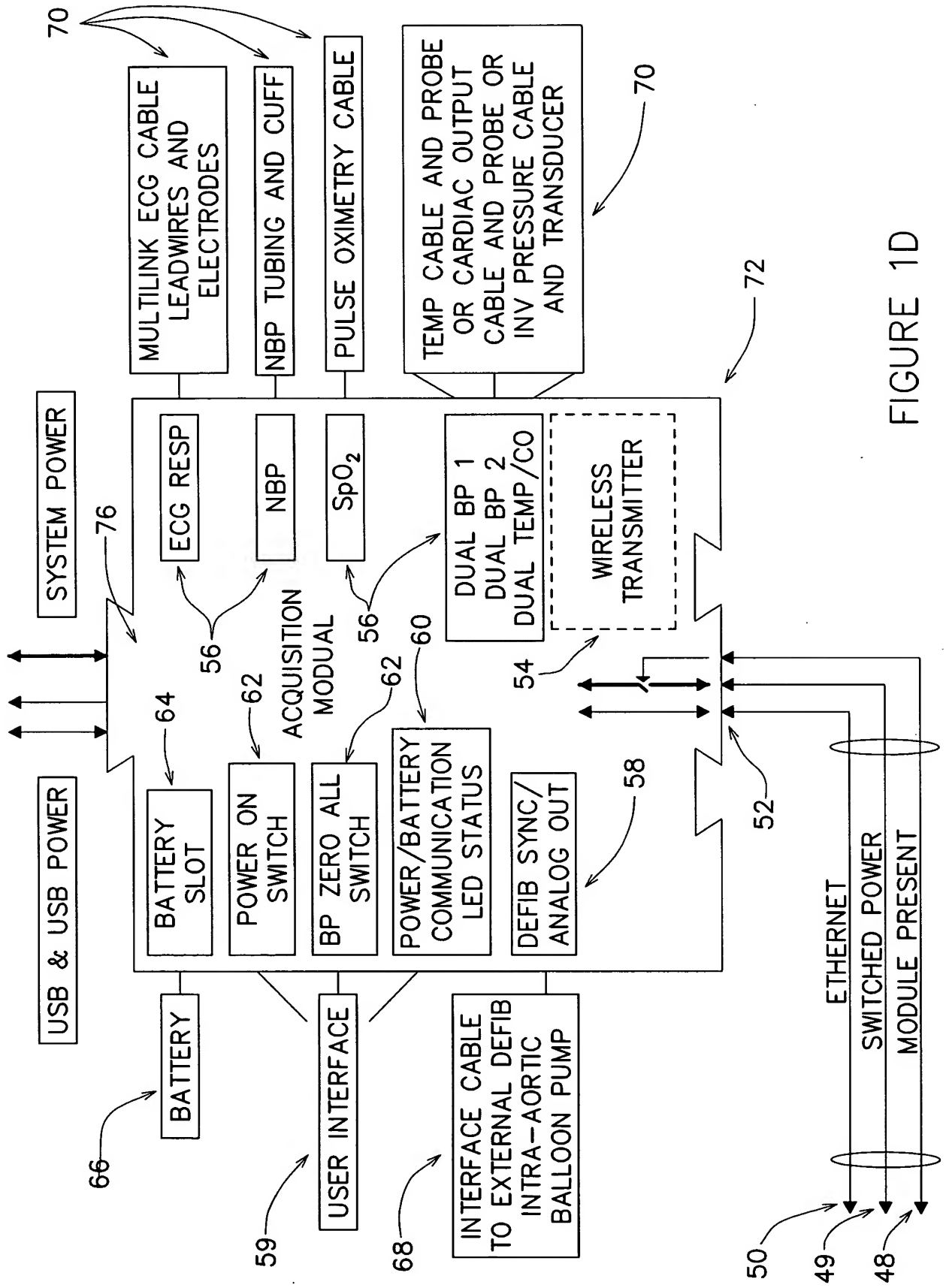

70
MULTILINK ECG CABLE LEADWIRES AND ELECTRODES
NBP TUBING AND CUFF
PULSE OXIMETRY CABLE
TEMP CABLE AND PROBE OR CARDIAC OUTPUT CABLE AND PROBE OR INV PRESSURE CABLE AND TRANSDUCER
70
72
SYSTEM POWER
76
ECG RESP
NBP
SpO2
DUAL BP 1
DUAL BP 2
DUAL TEMP/CO
WIRELESS TRANSMITTER
56
ACQUISITION MODUAL
56
60
54
64
62
62
BATTERY SLOT
POWER ON SWITCH
BP ZERO ALL SWITCH
POWER/BATTERY COMMUNICATION LED STATUS
DEFIB SYNC/ ANALOG OUT
58
52
USB & USB POWER
ETHERNET
SWITCHED POWER
MODULE PRESENT
BATTERY
USER INTERFACE
INTERFACE CABLE TO EXTERNAL DEFIB INTRA-AORTIC BALLOON PUMP
66
59
68
50
49
48

FIGURE 1D

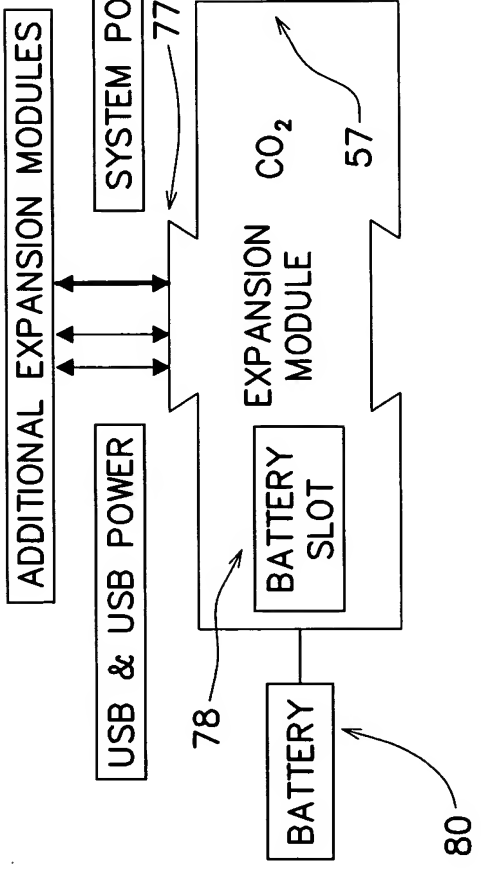


FIGURE 1E

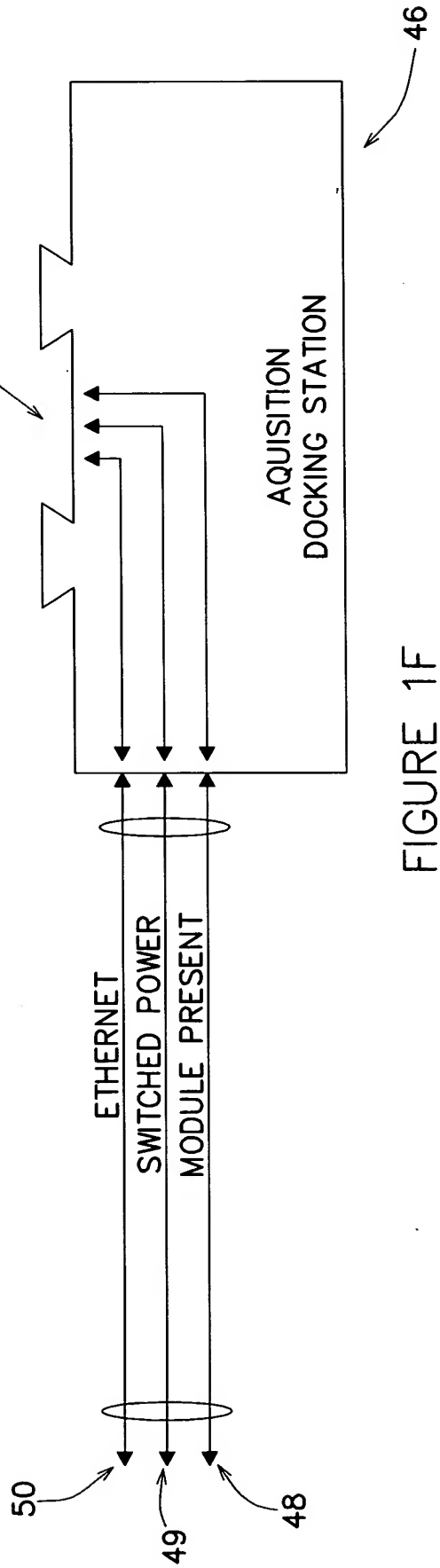


FIGURE 1F

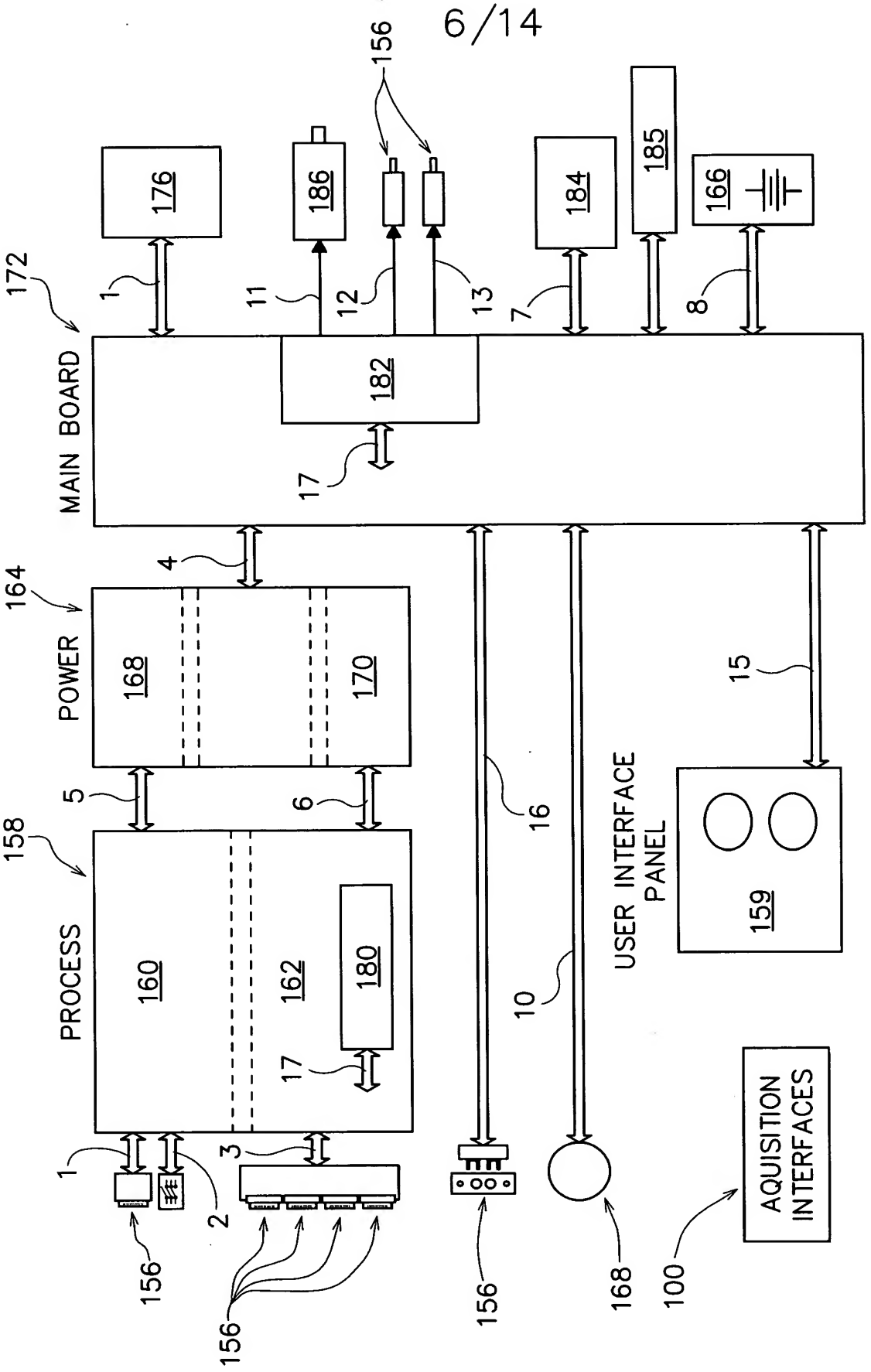

MAIN BOARD
172
176
186
156
184
185
166
182
17
1
11
12
13
7
8
4
POWER
164
168
170
5
6
PROCESS
158
160
162
180
17
1
3
2
156
156
156
16
10
15
USER INTERFACE PANEL
159
168
100
AQUISITION INTERFACES

FIGURE 2A

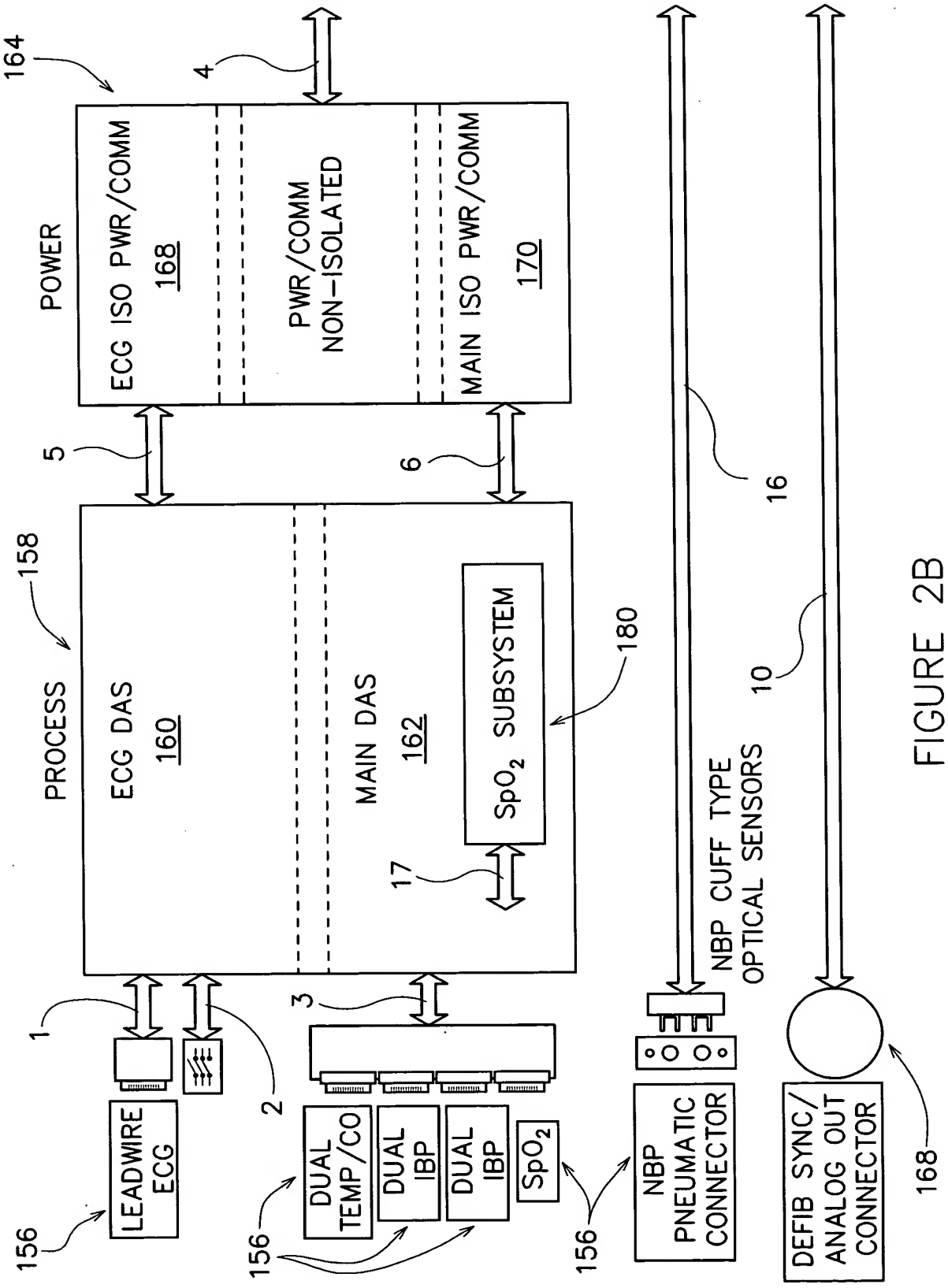
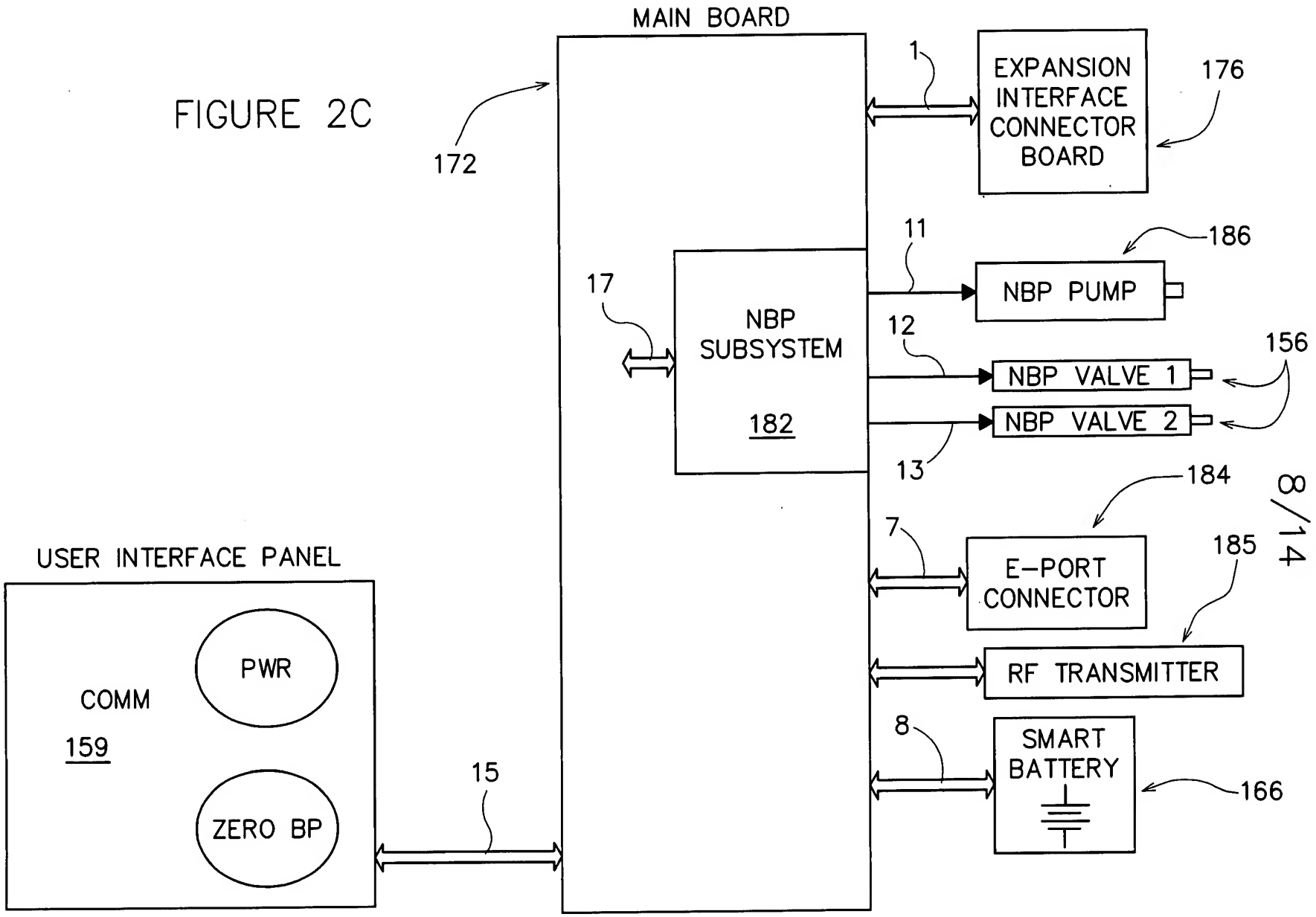

164
POWER
ECG ISO PWR/COMM
168
PWR/COMM
NON-ISOLATED
MAIN ISO PWR/COMM
170
4
5
6
158
PROCESS
ECG DAS
160
MAIN DAS
162
SpO_2 SUBSYSTEM
180
17
16
10
1
2
3
LEADWIRE ECG
156
DUAL TEMP/CO
DUAL IBP
DUAL IBP
SpO_2
156
156
NBP CUFF TYPE OPTICAL SENSORS
NBP PNEUMATIC CONNECTOR
DEFIB SYNC/ ANALOG OUT CONNECTOR
168

FIGURE 2B

FIGURE 2C


MAIN BOARD
172
1
EXPANSION INTERFACE CONNECTOR BOARD
176
11
186
NBP PUMP
17
NBP SUBSYSTEM
182
12
156
NBP VALVE 1
NBP VALVE 2
13
184
7
E-PORT CONNECTOR
185
RF TRANSMITTER
8
SMART BATTERY
166
USER INTERFACE PANEL
COMM
159
PWR
ZERO BP
15

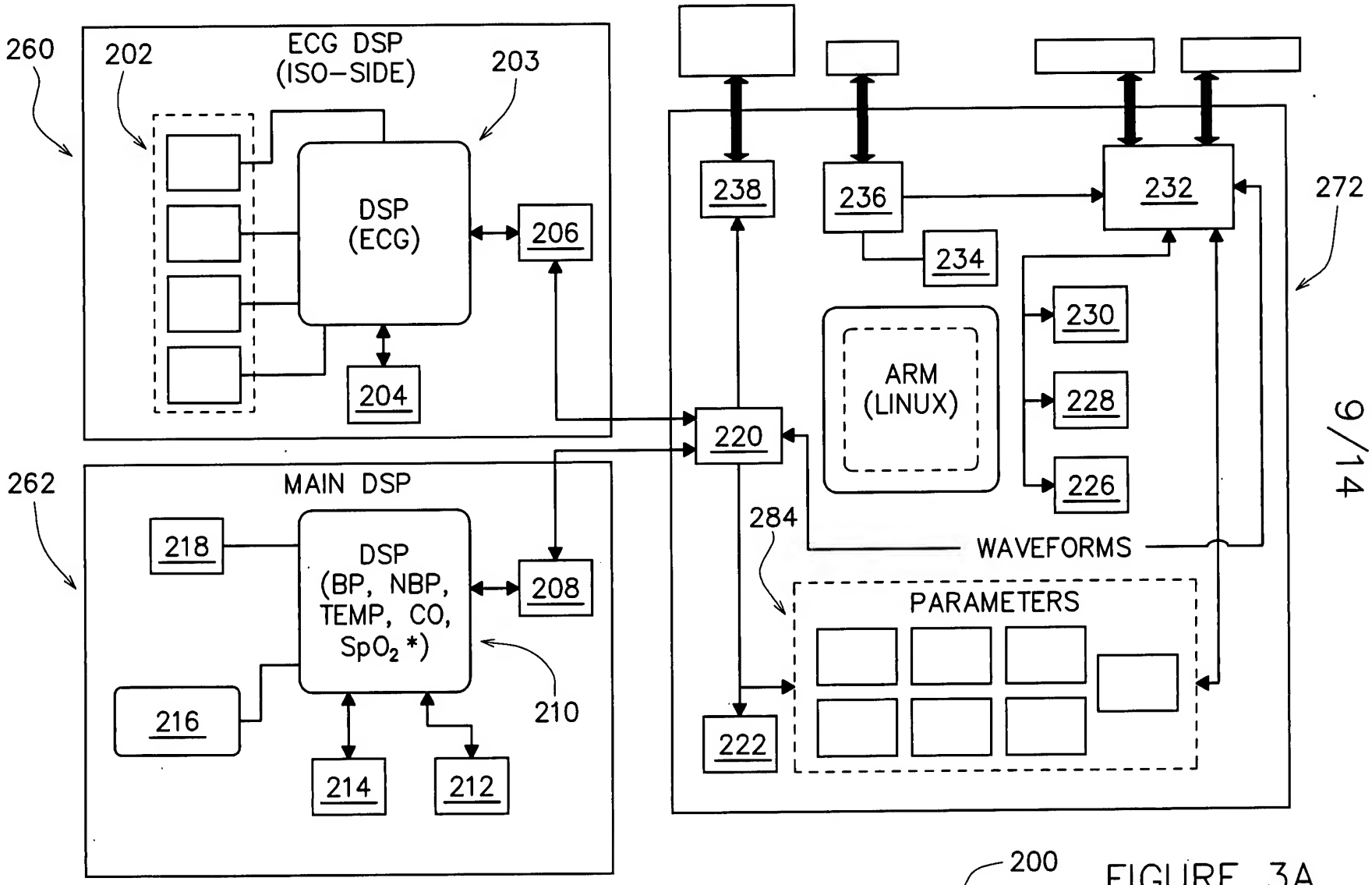


FIGURE 3A

FUNCTIONAL SOFTWARE BLOCK DIAGRAM 200

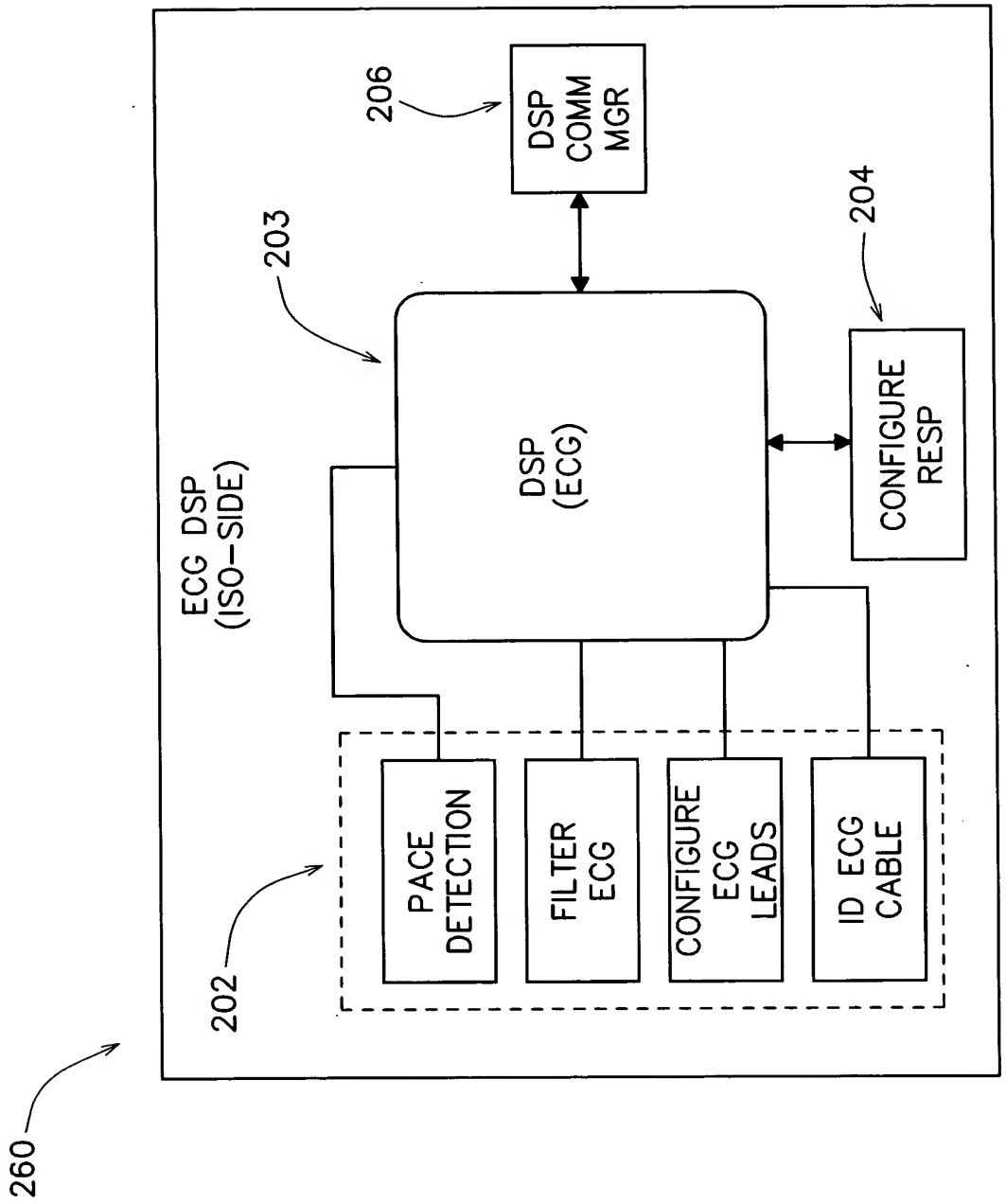

260
ECG DSP
(ISO-SIDE)
202
PACE
DETECTION
FILTER
ECG
CONFIGURE
ECG
LEADS
ID ECG
CABLE
203
DSP
(ECG)
204
CONFIGURE
RESP
206
DSP
COMM
MGR

FIGURE 3B

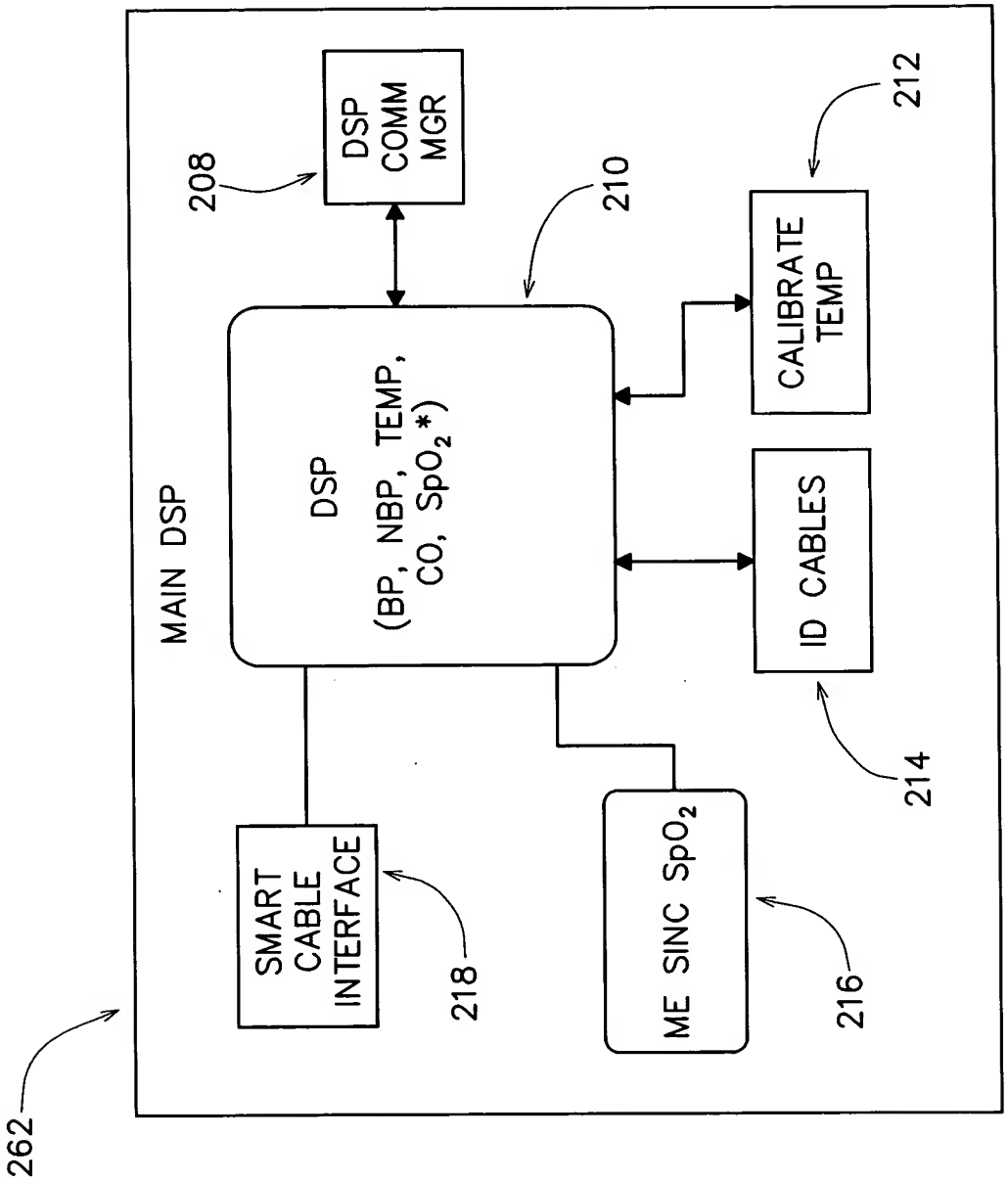

MAIN DSP
DSP COMM MGR
208
DSP
(BP, NBP, TEMP, CO, SpO2*)
210
CALIBRATE TEMP
212
ID CABLES
214
SMART CABLE INTERFACE
218
ME SINC SpO2
216
262

FIGURE 3C

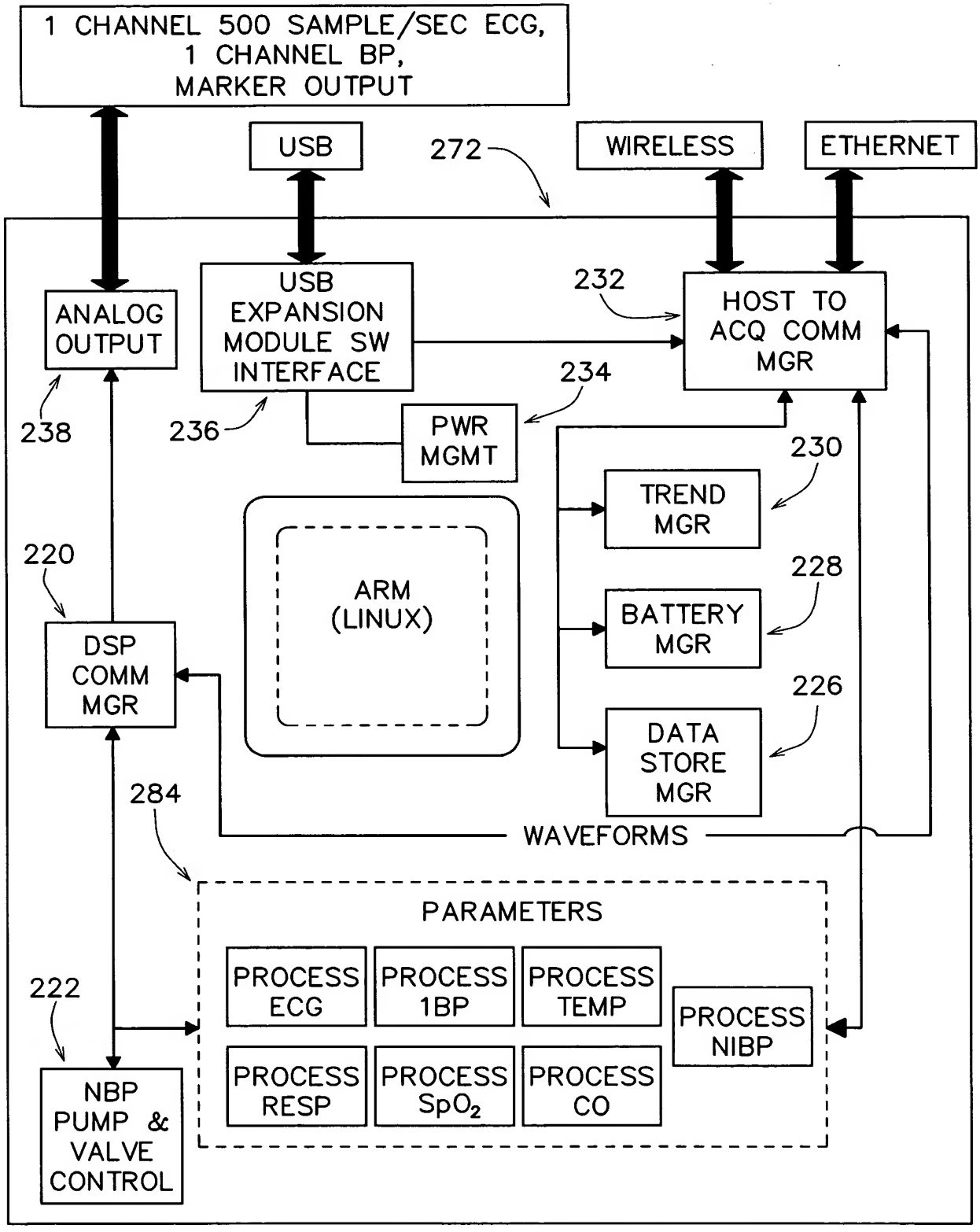

1 CHANNEL 500 SAMPLE/SEC ECG,
1 CHANNEL BP,
MARKER OUTPUT
USB
272
WIRELESS
ETHERNET
ANALOG OUTPUT
USB EXPANSION MODULE SW INTERFACE
232
HOST TO ACQ COMM MGR
238
236
234
PWR MGMT
230
TREND MGR
220
ARM (LINUX)
228
BATTERY MGR
DSP COMM MGR
226
DATA STORE MGR
284
WAVEFORMS
PARAMETERS
PROCESS ECG
PROCESS 1BP
PROCESS TEMP
PROCESS NIBP
222
PROCESS RESP
PROCESS SpO2
PROCESS CO
NBP PUMP & VALVE CONTROL

FIGURE 3D

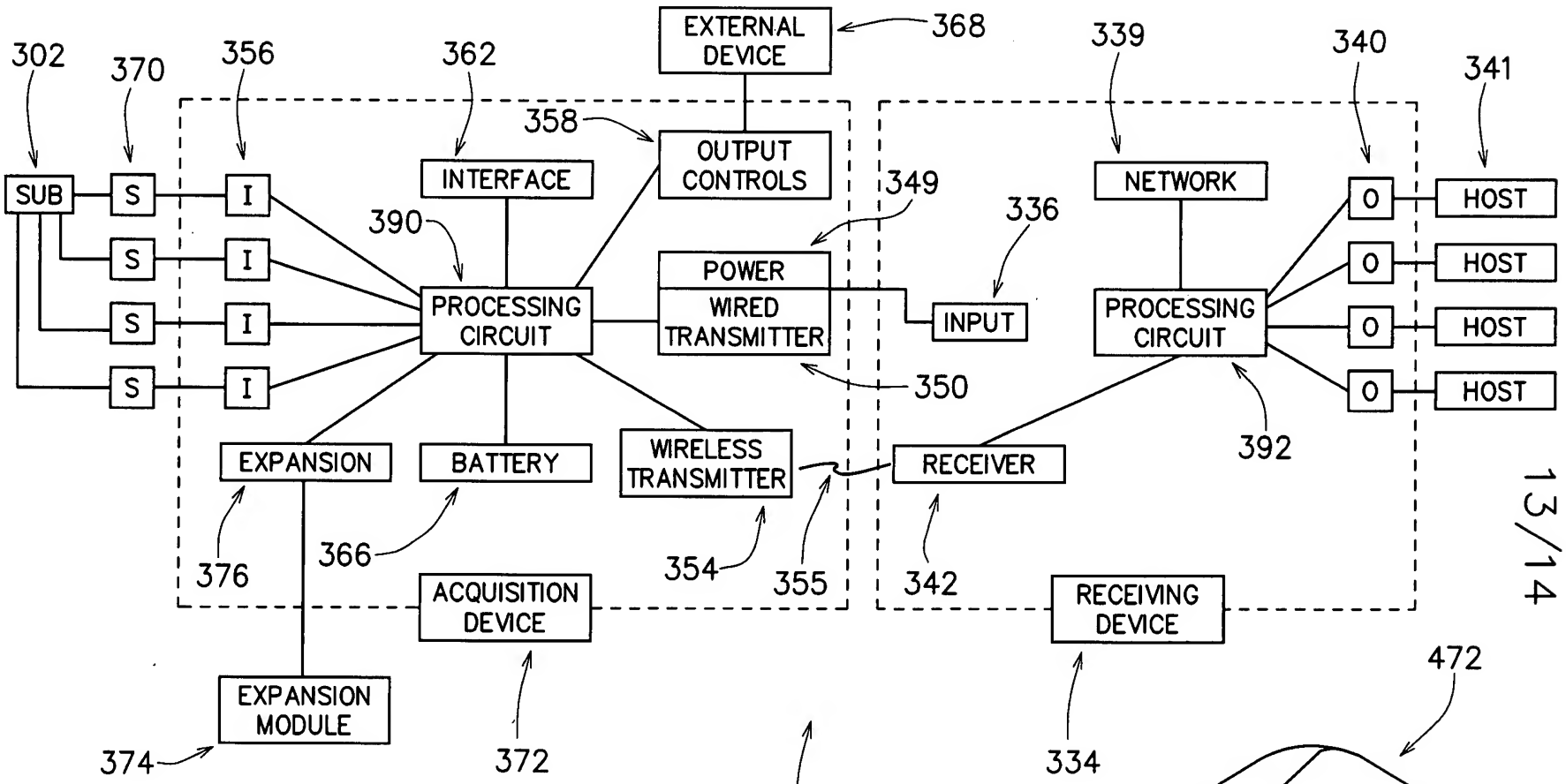


FIGURE 4

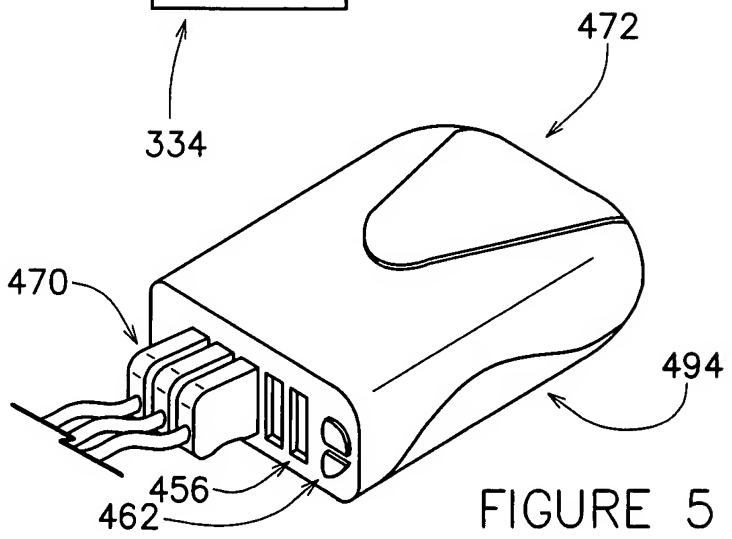
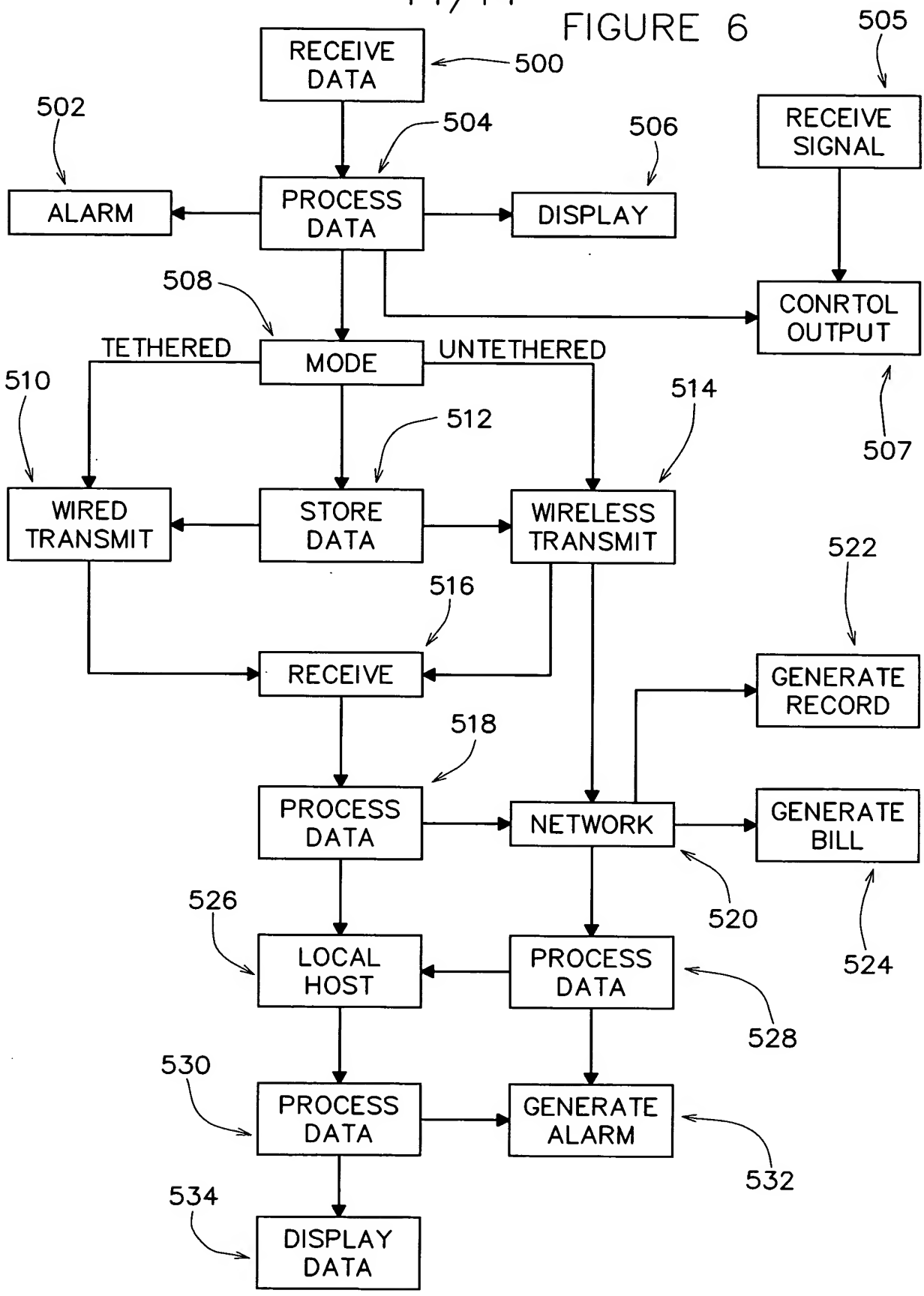


FIGURE 5

FIGURE 6


RECEIVE DATA
500
505
RECEIVE SIGNAL
502
504
506
ALARM
PROCESS DATA
DISPLAY
508
CONRTOL OUTPUT
TETHERED
MODE
UNTETHERED
510
514
512
507
WIRED TRANSMIT
STORE DATA
WIRELESS TRANSMIT
522
516
RECEIVE
GENERATE RECORD
518
PROCESS DATA
NETWORK
GENERATE BILL
526
520
524
LOCAL HOST
PROCESS DATA
528
530
PROCESS DATA
GENERATE ALARM
532
534
DISPLAY DATA